

Patent claims

1. A method for controlling the distribution of transmission rates in a cellular radiotelecommunication system, having the following features:
 - a) In at least one radio cell (PC1; PC2) of the radiotelecommunication system, in each case at least two fixed parts (FP11, FP12; FP21, FP22) and at least one portable part (PP11; PP12) are operated for purposes of wireless telecommunication,
 - b) a first fixed part (FP11; FP21) supports a first transmission mode (M1) in which a first service is transmitted at a first transmission rate, and a second transmission mode (M2) in which a second service is transmitted at a second transmission rate,
 - c) a second fixed part (FP12; FP22) supports the first transmission mode (M1) in which the first service is transmitted at the first transmission rate,
 - d) the first fixed part (FP11; FP21) signals to the portable part (PP11; PP21), in dependence on a traffic load carried by the second fixed part (FP12; FP22), in a first system information item that it supports the second transmission mode (M2) or the first transmission mode (M1) and second transmission mode (M2),
 - e) the second fixed part (FP12; FP22) signals to the portable part (PP11; PP21) in a second system information item that it supports the first transmission mode (M1).
2. The method as claimed in claim 1, characterized in that

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- a) the portable part (PP11; PP21) supports the first transmission mode (M1) in which the first service is transmitted at the first transmission rate, and the second transmission

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mode (M2) in which the second service is transmitted at the second transmission rate,

b) the portable part (PP11; PP21) stores connection-related data in at least one memory (SP1, SP2),

c) the portable part (PP11; PP21) stores primary data records in the form of a first list (L1) in the memory (SP1, SP2) when the fixed parts (FP11, FP12, FP21, FP22) signal in the system information item that they support the first transmission mode (M1),

d) the portable part (PP11; PP21) stores secondary data records in the form of a second list (L2) in the memory (SP1, SP2) when the fixed parts (FP11, FP12, FP21, FP22) signal in the system information item that they support the second transmission mode (M2),

e) the portable part (PP11; PP21) updates the first list (L1) and the second list (L2) in the case of a change in the system information from the fixed parts (FP11, FP12, FP21, FP22).

3. The method as claimed in claim 1 or 2, characterized in that

a) the second fixed part (FP12; FP22) compares value (FS) of the current capacity utilization with threshold values (FS_MAX, FS_HY),

b) the second fixed part (FP12, FP22) sends to the first fixed part (FP11, FP21) a first signaling information item when the value (FS) of the current capacity utilization is greater than or equal to a first threshold value (FS_MAX),

c) the second fixed part (FP12, FP22) sends to the first fixed part (FP11, FP21) a second signaling information item when the value (FS) of the current capacity utilization is less than or equal to a second threshold value (FS_HY),

- d) the first fixed part (FP11; FP21) signals, between receiving the first and the second signaling information items, to the portable part (PP11; PP21) in the first system information

item that it supports the first transmission mode (M1) and the second transmission mode (M2),

e) the first fixed part (FP11; FP21) signals, between receiving the second and first signaling information items, to the portable part (PP11; PP21) in the first system information item that it supports the second transmission mode (M2) or the first transmission mode (M1) and the second transmission mode (M2).

4. The method as claimed in claim 1 or 2, characterized in that

a) the second fixed part (FP12; FP22) compares a value (FS) of the current capacity utilization with threshold values (FS_MAX, FS_HY),

b) the second fixed part (FP12, FP22) sends to a higher-level controller (FPC) a first signaling information item when the value (FS) of the current capacity utilization is greater than or equal to a first threshold value (FS_MAX),

c) the second fixed part (FP12, FP22) sends to the higher-level controller (FPC) a second signaling information item when the value (FS) of the current capacity utilization is less than or equal to a second threshold value (FS_HY),

d) the controller (FPC), between receiving the first and the second signaling information items, controls the first fixed part (FP11; FP21) in such a manner that it signals to the portable part (PP11; PP21) in the first system information item that it supports the first transmission mode (M1) and the second transmission mode (M2),

e) the controller (FPC), between receiving the second and the first signaling information items, controls the first fixed part (FP11; FP21) in such a manner that it signals to the

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portable part (PP11; PP21) in the first system
information item that it supports the second

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transmission mode (M2) or the first transmission mode (M1) and second transmission mode (M2).

- 5 5. The method as claimed in claim 3 or 4, characterized in that telecommunication connections between the portable parts (PP11; PP21) and the first fixed part (FP11; FP21), in which the first transmission mode (M1) is used, are exchanged in the sense of a handover by corresponding telecommunication connections between the portable parts (PP11, PP21) and the second fixed part (FP12, FP22).
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- 15 6. The method as claimed in claim 5, characterized in that
- a) the telecommunication connections are exchanged when the second signaling information item is received,
 - 20 b) the telecommunication connections are exchanged automatically,
 - c) the exchange of telecommunication connections is ended at the latest after the first signaling information item has been received.
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7. The method as claimed in claim 6, characterized in that
- a) the portable part (PP11, PP21) initiates the exchange of telecommunication connections,
 - 30 b) the portable part (PP11, PP21) exchanges the telecommunication connections.
8. The method as claimed in claim 6, characterized in that
- 35 a) the higher-level controller (FPC) initiates the exchange of telecommunication connections,

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b) the higher-level controller (FPC) exchanges telecommunication connections.

5 9. The method as claimed in claim 6, characterized in that

a) the fixed part (FP11, FP12, FP21, FP22) initiates the exchange of telecommunication connections,

10 b) the fixed part (FP11, FP12, FP21, FP22) exchanges the telecommunication connections.

15 10. The method as claimed in one of claims 5 to 7, characterized in that the telecommunication connections are exchanged in an iterative process.

11. The method as claimed in one of claims 5 to 8, characterized in that

20 a) a number of connections which can be handed over to the second fixed part (FP11, FP21) without exceeding the first threshold value (FS_MAX) is signaled to the first fixed part (FP11, FP21),

25 b) the first fixed part (FP11, FP21) hands over, at the most, this number of connections in one step to the second fixed part (FP12, FP22).

30 12. The method as claimed in claim 10, characterized in that the second fixed part (FP12, FP22) signals the number of connections to the first fixed part (FP11, FP21).

13. The method as claimed in claim 10, characterized in that

35 a) the second fixed part (FP12, FP22) signals the number of connections to the controller (FPC),

b) the controller (FPC) thereupon signals the number of connections to the first fixed part.

- 5 14. The method as claimed in one of claims 3 to 12, characterized in that the absolute value of the second threshold value (FS_HY) is equal to the absolute value of the first threshold value (FS_MAX).
- 10 15. The method as claimed in one of claims 3 to 12, characterized in that the absolute value of the second threshold value (FS_HY) is smaller than the absolute value of the first threshold value (FS_MAX).
- 15 16. The method as claimed in one of the preceding claims, characterized in that signals are transmitted at 32 kbit/s in the case of the first transmission rate and at 64 kbit/s in the case of
- 20 the second transmission rate.
- 25 17. The method as claimed in one of the preceding claims, characterized in that voice is transmitted in the case of the first service and packet data are transmitted in the case of the second service.
- 30 18. The method as claimed in one of the preceding claims, characterized in that the portable part (PP11, PP21) is a wireless portable part.
19. The method as claimed in one of the preceding claims, characterized in that the portable part (PP11, PP21) is a wireless radio network termination RNT.

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20. The method as claimed in one of the preceding claims, characterized in that the radiotelecommunication system operates in accordance with the DECT standard.

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